

Patent Abstracts of Japan

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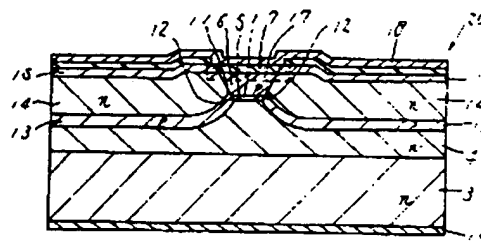
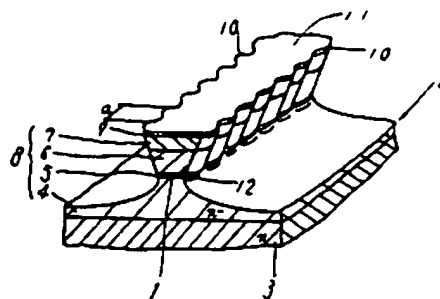
APPLICATION DATE : 25-03-85
APPLICATION NUMBER : 60058353

APPLICANT : HITACHI LTD;

INVENTOR : KATO YOSHIKI;

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TITLE : SEMICONDUCTOR LASER ELEMENT
AND MANUFACTURE THEREOF



ABSTRACT : PURPOSE: To keep the single lateral mode oscillation constantly and to stabilize a far field pattern by eliminating a random sway by forming a diffraction gratings on a boundary of a mesa part.

CONSTITUTION: When a multilayer growth layer 8 comprising an active layer 5 is etched, a mask 9 having diffraction gratings 10 on both sides is used for etching. On both sides of a mesa part 11, that is both sides of a light waveguide path 1, diffraction gratings 12 of a desired pitch are formed and the crystal planes of both sides of the mesa part 11 are made the (111) crystal planes on which the melt back causing In to appear hardly occur. Accordingly though a buried layer 14 is formed on both sides of the mesa part 11 by a liquid-phase epitaxial method, the diffraction gratings 12 are not damaged and the single wavelength light emission can be maintained in spite of a high-speed modulation.

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